SYLLABUS
COURSE DESCRIPTION – ACADEMIC YEAR 2024/2025

COURSE TITLE	**Operating Systems**
COURSE CODE	76263
SCIENTIFIC SECTOR	INF/01
DEGREE	Bachelor in Computer Science
SEMESTER	2nd
YEAR	1st
CREDITS	6

TOTAL LECTURING HOURS	40
TOTAL LAB HOURS	20
ATTENDANCE	Attendance is not compulsory but recommended. Non-attending students have to contact the lecturer at the start of the course to agree on the modalities of the independent study.
PREREQUISITES	
COURSE PAGE	https://ole.unibz.it/

SPECIFIC EDUCATIONAL OBJECTIVES	Type of course: "di base" Scientific area: "Formazione informatica di base" The goal of this course is to give students an understanding of: • the operating systems and their components/functionalities; • the foundation of their programming in C; • scheduling algorithms; • processes and synchronization; • memory management

LECTURER	Janes Andrea
SCIENTIFIC SECTOR OF THE LECTURER	INF/01
TEACHING LANGUAGE	**Italian**

OFFICE HOURS	tba
TEACHING ASSISTANT	same as lecturer
OFFICE HOURS	
LIST OF TOPICS COVERED	• Programming in C • Scheduling and concurrency • Processes and synchronization • File systems and memory management • Storage management • Security and protection
TEACHING FORMAT	This course will be delivered through a combination of formal lectures and labs.
LEARNING OUTCOMES	**Knowledge and understanding** • Know the fundamental principles of programming; • Know the innovative aspects of the last generation of operating systems. **Applying knowledge and understanding** • Ability to develop programs to interact with microcontrollers and the operating systems of modern computers. **Making judgments** • Be able to work autonomously according to the own level of knowledge and understanding. **Communication skills** • Be able to use one of the three languages English, Italian and German, and be able to use technical terms and communication appropriately. **Ability to learn** • Have developed learning capabilities to pursue further studies with a high degree of autonomy; • Be able to follow the fast technological evolution and to learn cutting edge IT technologies and innovative aspects of last generation information systems.
ASSESSMENT	- programming assignments and projects to implement operating system functionalities or simulate system behavior. - written exam to assess the understanding of fundamental concepts and the acquisition of detailed knowledge about operating systems. The exam consists of open questions covering both theoretical content and lab exercises. Non-attending students are required to contact the lecturer at the beginning of the course to discuss arrangements for independent study.
ASSESSMENT LANGUAGE	**Italian**
EVALUATION CRITERIA AND CRITERIA FOR AWARDING MARKS	The final grade will be composed of the grade obtained at the written exam (70%) and, of the grade obtained for the labs/projects work (30 %). A passing grade to all projects is necessary to access the exam. Project grades records last for the academic year. All grades reflect the correctness and

	clarity of answers. Attending and non-attending students are evaluated the same way.

REQUIRED READINGS	• Operating System Concepts, Abraham Silberschatz et al; 2018, Tenth Edition. • Che C serve? – Per iniziare a programmare – E. Burattini et al., 2016, Seconda Edizione • Additional materials will be provided during the lessons and labs.
SUPPLEMENTARY READINGS	• Modern operating systems, Andrew S. Tanenbaum; 2008
SOFTWARE USED	• C/C++